

**REMARKS/ARGUMENTS****1. Regarding the Office action, dated 01/25/2005:**

5        Claims 1, 3, 6, 15, 17, 20, 28, 30, 33 and 36-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagahara (US 2002/0192945, dated 12/19/02). Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Harada et al. (US 6,251,774, dated 6/26/01). Claims 1 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Ma (US 2003/0216036, dated 11/20/03, filed 6/5/03). Claims 1  
10      and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Chang (US 2003/0166345, dated 9/4/03, filed 3/2/02). Claims 2, 4-5, 7-14, 16, 18-19, 21-27, 29, 31-32, 34-35 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagahara (US 2002/0192945, dated 12/19/02).

**15      Response:**

         The amended claims 1, 15, and 28 of the present application disclose **the composite layer is utilized as a mask to prevent light from reaching the first alignment mark when aligning the photo mask, and the photo mask can be**  
20      **aligned with the second alignment to achieve two direct alignments.** Nagahara, Harada, Ma, and Chang never teach or suggest how to align a photo mask to form the pattern above the recess, and fail to provide a method of utilizing two direct alignments for forming dual damascene structures. Reconsideration of the amended claims 1, 15, and 28 is politely requested. Claims 2-14, 16-27, and 29-39 are  
25      dependent on the amended claims 1, 15, and 28 respectively and should be allowed if the amended claims 1, 15, and 28 is allowed. Reconsideration of the rejection of claims 2-14, 16-27, and 29-39 is therefore respectfully requested.

**2. Regarding the Advisory action, dated 05/03/2005:**

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         In response to Applicant's remarks, pages 2-7, the limitation regarding "aligning a photo mask with the recess (or second recess) by utilizing the composite layer as a

mask" is not specific enough to delineate just how the photo mask is aligned using the composite layer as a mask. For example, is it aligned so that the edges are aligned with the edges of the contact hole? , etc. Therefore, the Examiner takes the position that the photo mask, in the prior art of record, meets the claimed limitation, because  
5 clearly, the photo mask is aligned using the composite layer, which includes the hard mask and thus the insulating layer and contact hole boundaries so that the pattern in the photoresist layer is aligned with and around the contact hole opening, so that it does not cover the opening, even though it is larger than the contact hole opening and thus the composite layer opening. The type of alignment is not precluded by the broad  
10 claim language. It is suggested that applicant further define the limitation to preclude the alignment explained by regarding the prior art of record. Additionally, regarding Applicant's remarks concerning alignment marks and two direct alignments for forming dual damascene structures, these features are not claimed.

15 For purposes of Appeal, the request for reconsideration will be entered. The status of the claims is as follows: Claims rejected: 1-39.

**Response:**

20 a. The Examiner states that "aligning a photo mask with the recess (or second recess) by utilizing the composite layer as a mask" is not specific enough to delineate just how the photo mask is aligned using the composite layer as a mask.

Please refer to US patent 6,858,948, which discloses how a photo mask is  
25 aligned with an alignment mark. As shown in Fig. 1 and corresponding text of US patent 6,858,948, the photo mask MA is provided with alignment marks (M.sub.1 and M.sub.2) in the photo mask MA. These alignment marks (M.sub.1 and M.sub.2) may be aligned through the projection system PL to alignment marks (P.sub.1 and P.sub.2) in the substrate W. During this alignment,  
30 information will be obtained about the position of the image C projected through the projection system PL upon the substrate W. Similarly, **the present application utilizes the same principle, which is known by the person skilled**

in the art, to align the photo mask with the alignment marks.

5 To claim more precisely, independent claims 1, 15, and 28 have been amended to recite the conductive region and the second conductive region in the claim 1, 15, and 28 respectively being utilized as a first alignment mark, the recess and the second recess in the claim 1, 15, and 28 respectively being utilized as a second alignment mark, and light being prevented from reaching to the first alignment mark when aligning the photo mask with the second alignment mark to achieve two direct alignments. Therefore, the  
10 amended claims 1, 15, and 28 of the present application specifically delineate the composite layer is utilized as a mask to prevent light from reaching the first alignment mark when aligning the photo mask, and the photo mask can be aligned with the second alignment to achieve two direct alignments. Reconsideration of the amended claims 1, 15, and 28 is therefore politely  
15 requested.

b. The Examiner takes the position that the photo mask, in the prior art of record, meets the claimed limitation, because clearly, the photo mask is aligned using the composite layer, which includes the hard mask and thus the insulating layer and  
20 contact hole boundaries so that the pattern in the photoresist layer is aligned with and around the contact hole opening, so that it does not cover the opening, even though it is larger than the contact hole opening and thus the composite layer opening. The type of alignment is not precluded by the broad claim language. It is suggested that applicant further define the limitation to preclude the alignment  
25 explained by regarding the prior art of record.

The amended claims 1, 15, and 28 of the present application disclose the composite layer is utilized as a mask to prevent light from reaching the first alignment mark when aligning the photo mask, and the photo mask can be  
30 aligned with the second alignment to achieve two direct alignments. Compared to the prior art of record mentioned by the Examiner, the photo mask of the present application is not aligned using the composite layer, which includes

the hard mask and thus the insulating layer and contact hole boundaries, and the photo mask of the present application is aligned using the second alignment mark and **the composite layer of the present application is utilized to prevent light from reaching the first alignment mark** when aligning the photo mask to achieve two direct alignments. Therefore, the amended claims 1, 15, and 28 have further defined this limitation to distinguish from the cited prior art. Reconsideration of the amended claims 1, 15, and 28 is therefore politely requested.

- 10 c. The Examiner states that for Applicant's remarks concerning alignment marks and two direct alignments for forming dual damascene structures, these features are not claimed.

15 To comply with the Examiner's suggestion, claims 1, 15, and 28 have amended to add the features of alignment marks and two direct alignments. Reconsideration of the amended claims 1, 15, and 28 is therefore politely requested.

20 Consequently, reconsideration of the amended claims 1, 15, and 28 is politely requested. Claims 2-14, 16-27, and 29-39 are dependent on the amended claims 1, 15, and 28 respectively and should be allowed if the amended claims 1, 15, and 28 is allowed. Reconsideration of the rejection of claims 2-14, 16-27, and 29-39 is therefore respectfully requested.

25 Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Sincerely yours,

Winston Hsu

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- 10 Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C. is 12 hours behind the Taiwan time, i.e. 9 AM in D.C. = 9 PM in Taiwan.)